IOWA CONSERVATIONIST

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Expect 100,000 New Iowa Hunters and Fishermen

More Outdoor Enthusiasts After the War: Prospects Bright for All

ONE happy day eleven million fighting men will return to vilian life. Questionnaires show iat millions of these men who had ot hunted or fished prior to the ar intend to upon their release om the service. Consensus of pinions of state and federal offi- als concerned with hunting and shing indicate that there will be om 30 to 50 per cent more li- ensed hunters and fishermen in ie United States than there were efore the war. This belief is borne ut by the fact that after 1918 iere was an increase of some 30 er cent in the number of partici- ants in these sports, in spite of ie fact that fish and game popu- itions, particularly the latter, ere reaching an all-time low.

Will a 50 per cent increase in unting and fishing destroy these ports? Are popular game spe- ies to follow the passenger pigeon o extinction? Must seasons be iortened, bag limits reduced, and ultitudes of new restrictive laws e passed? The answer is "No." ever before has the hunting and shing outlook been viewed so op- mistically.

The reasons for this optimism re many, and one of primary im- ortance is public sentiment for iore and better hunting and fish- ig. This demand, a faint whisper 1 1918, has reached a volume that e-echoes from every American rossroad. It is a voice that cannot e ignored. It has become an in- piration to game officials, and its nportance is concrete—not ab- tract—for "with public sentiment othing can fail, and without it othing can succeed." What the eople want they get. And make o mistake, they want and expect ood hunting and fishing.

Fish and game research is play- ng and will continue to play a very

(Continued on page 106)

Questionnaires show that many of the millions of men in the armed service who had not hunted or fished prior to the war intend to upon their release. Game officials believe that the increase in Iowa will be more than 30 per cent. They also believe that there will be plenty of fish and game for all. —Jim Sherman Photo

Poverty or Conservation Your National Problem

By Jay N. "Ding" Darling
Honorary President, National Wildlife Federation

(Continued from last month)

LOCAL Chambers of Commerce and Congressmen still rush the doors of the Treasury for millions to build dams which will produce $25,000 worth of electricity a year but destroy nine million dollars worth of natural income and throw thousands out of employment. It has been done recently.

A slaughter-house or a paper mill may employ 100 men and increase the local bank clearings to the gratification of the city fathers, but at the same time destroy the livelihood of 500 families downstream through pollution of the once productive waters.

"Reclamation projects" may (and have done so time without number) spend tremendous sums for irrigation and find that they have robbed Peter of a fortune to pay Paul a pittance.

(Continued on page 108)

RED ROCK DAM FLOOD CONTROL PROJECT

Fish, Game and Recreational Viewpoint Analysis

IT IS proposed by the U. S. Army Engineers that a 95-foot dam be constructed across the Des Moines River about ten miles north of Knoxville in Red Rock Township in Marion County for flood control and hydroelectric power development purposes. The preliminary plans call for the creation of a 23,600-acre conservation pool and a maximum flood pool of 50,000 acres. This body of water would lie in Marion, Warren and Polk counties, with one bay extending into Jasper county.

The estimated cost of the project is said to be approximately $15,000,000, the builders, owners and operators of the area to be federal agencies.

It is the duty of the State Conservation Commission, under the laws of the State of Iowa, to protect, propagate, increase and preserve the fish, game, fur-bearing animals and protected birds of the state, promote forestry, establish, improve, maintain and beautify public parks and preserves, and conserve the natural resources of the state.

The state law also has given the Commission jurisdiction over all meandered streams and lakes in the state. Therefore, the State Conservation Commission is very much interested in not only this proposed Red Rock development, but every other flood control or other project for any purpose that affects the lakes and streams in the state under its jurisdiction.

The following is an analysis by the State Conservation Commission of this proposed development

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CLOCKS BEAR AT EIGHTEEN MILES PER HOUR

Don't annoy a bear unless you can run faster than 18 miles an hour! This advice is based on a test conducted by Jim Roa of North Carolina to determine a bear's speed afoot.

Jim, so Bill Sharpe of the North Carolina State News Bureau informs us, was driving his car along an old swamp between two deep canals, when he came upon a bear in the road. Apparently having an aversion to cold water, the bear trotted ahead. Jim speeded up and the bear increased his pace, which reached 18 miles an hour before the animal gave up the race and jumped overboard.

Expect 100,000 . . .

(Continued from page 105)

important role in improving these sports. The trial and error method of fish and game management is changing to a more scientific approach. Sound research programs are becoming extremely important in every fish and game organization. In fact, the scientists have within the last few years proved false some of the theories

Yellow bass furnished a substantial part of the fish taken from Clear Lake in 1944.

that had for centuries been considered basic to wildlife needs. These new and scientific principles are not to be confused with Dr. Goebbels' threats of new "V" weapons that never materialize. They are certain to come, and they are certain to improve hunting and fishing.

There has been a nation-wide trend to divorce conservation from politics, and this is important to wildlife. The "freedom from fear" of political dismissal has encouraged trained competent employees to remain in fish and game fields in spite of low pay and has made possible continuity in the long-term programs which have been so important in rebuilding fish and game populations.

Probably more far-reaching than any other development is the understanding by laymen as well as game technicians of the basic conservation fact that sane land and water use is the key to good hunting and fishing. The land and water management principles of the soil conservation leaders, including holding the water on the land where it falls as rain, reforesting steep slopes, and returning to pasture those less steep, along with contouring of rolling land, construction of farm ponds, planting windbreaks, etc., contribute to the basic fundamental of fish and game production, provision of suitable environment in which fish and game can live and multiply.

Even though the soil program is barely under way, and in spite of the fact that war demands have caused more intensive agriculture, its benefits are already reflected in better hunting and fishing. At the conclusion of the war and cessation of abnormal demands on the land, the soil conservation program is certain to speed toward its objective of every acre and every drop of water to its proper use, with resultant increases in fish and game populations.

These factors, plus many more, are the basis for optimism for future game crops and the reason for the lack of any concern on the part of game officials for the prospects of greatly increased hunting and fishing in the future.

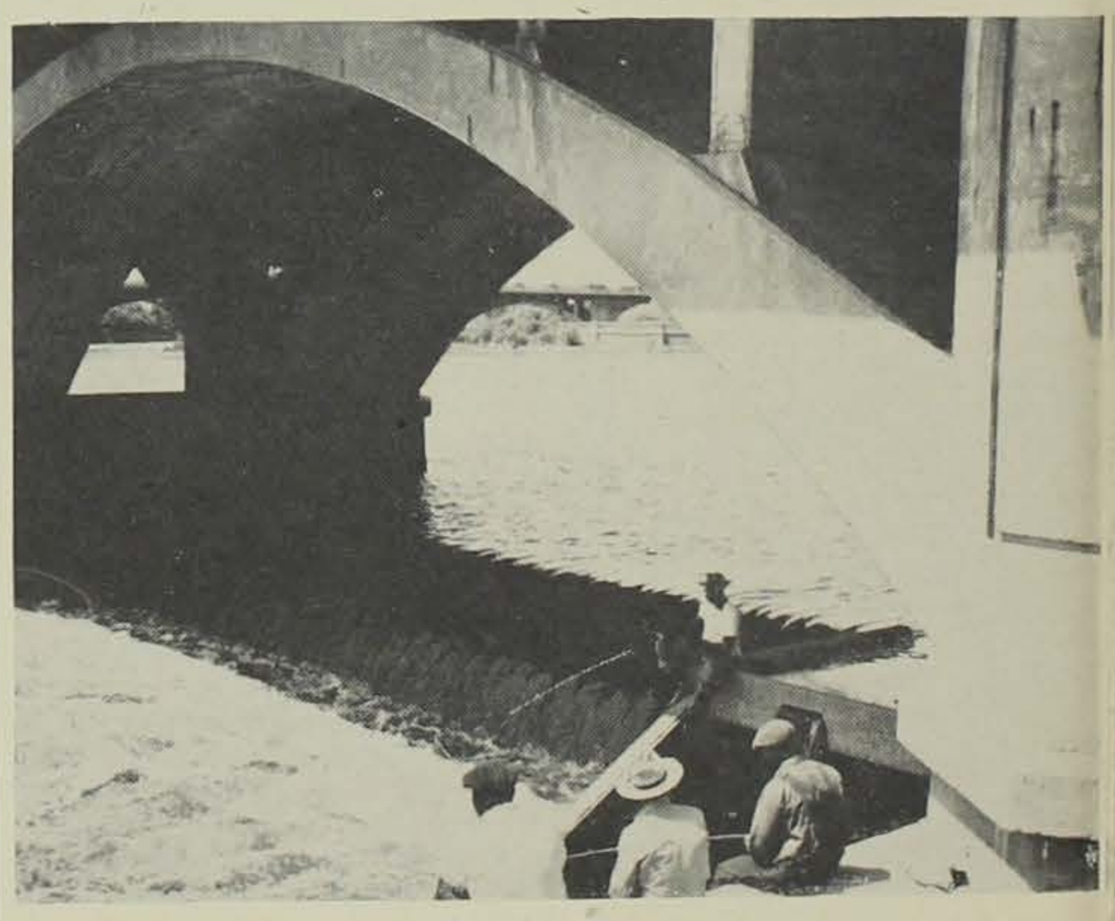
But what about the present status of fish and game? First let us look at the present pheasant situation. The pheasant census, the method by which the Conservation Commission has determined the number of birds available for hunting in the fall for more than ten years, showed a better over-all pheasant population last year than in the year before. Only in '40, '41 and '42 did the census reveal a greater population. Therefore, the population going into the past hunting season was the fourth highest in the state's history. This statement may not find agreement among hunters in some territories; however, many who disagreed early in the season on the number of pheasants present now admit there are more birds than they thought possible during the early part of the hunting season. Part of the lack of hunting success early was caused by the heavy vegetation and difficulty in locating the birds. The abnormally late mild weather, of course, was partly responsible for this.

Another disappointing aspect to some was the high bag and possession limits that were set by the Commission. It is odd that this is so. Nevertheless the hunter who failed to get his bag limit of six birds was disappointed. Some amateur psychologists believe that if the bag limit had been less, three for instance, with a possession limit of six, more hunters would have been pleased with the season.

This we know. We have ample seedstocks in the field at the present time, and if a normal number survive the remainder of the winter and we have normal nesting during the coming summer, we will have a good pheasant season in '45. This we also know—that a long season with a large bag and possession limit will not hurt pheasant populations as long as the harvest consists only of cock birds.

Possibly pheasants in the best pheasant territory have almost reached their maximum numbers under present farming conditions. However, we may expect more pheasants because of the fact that the pheasant range is steadily progressing southward. With this continued trend, we may expect in the not too distant future pheasant hunting in many counties south of the present open territory.

Quail populations at the present time are as high as they have been in modern times. Some technicians believe that they are higher than they have ever been before in the history of the state. There has been a steady increase in quail for more than a decade, except, of course, for a few bad winters with heavy quail loss. However, the quail have quickly recovered from



Although erosion control is barely under way, control of pollution has taken long strides forward, and this in itself has greatly aided the production of stream fish and has made many miles of stream, particularly near population centers, suitable for fishing.

Trout fishing was generally good in northeast Iowa, the northern section apparently furnishing better results than the southern. Several brown trout caught during '44 weighed more than eight pounds.

winter kill and continued to increase.

There are a number of reasons for quail increase. Over most of the quail territory erosion is bad. Nature, healing the erosion scars, provides new quail cover, which in turn makes for new covey ranges and increased numbers of birds. The very practices the soil conservationists use to check erosion, including strip cropping, terracing, gully control, and farm pond construction, also increase quail coverts. For the quail hunter it's a case of "heads he wins, tails he wins," and we may expect the quail curve to continue to rise sharply.

In Iowa we need more quail hunters and more quail dogs. There was a very small part of the surplus taken this year, and as a result many have winter killed that would have been taken by hunters. Even so, we may expect 1945, barring a calamitous late winter storm, to provide another topnotch quail hunting season.

The 1944 duck season was a paradox. We had more ducks through the state than in a decade. Also we had fewer ducks killed than for several seasons. With a great deal of water early, we might have and did expect that Iowa conditions would be perfect. However, at the critical time of year thousands of splendid marshes and ponds dried out. At the same time there was plenty of water, as well as an abundant supply of feed in the potholes north and west, and the ducks stayed late. The duck flight, when it came, came through in three days. Many of the birds sailed to stop at all, and most of those that did stayed only for a drink and a bath.

In spite of this general condition, however, there were areas in the state where the duck shooting was excellent. In others the early bluewing teal, shoveller and wood duck flight was about all the hunters had.

Every duck hunter knows that good duck shooting depends on water and weather conditions. He also knows that with 150,000,000 ducks on the North American continent we will not be passed up every year as during the past.

The 1944 squirrel season was as good as any in recent times, and in some parts of the state the squirrel is the most popular game animal. Fox squirrels particularly are adaptable, and because there is plenty of corn in every part of the state, the nut shortage does not necessarily curtail the populations. There are plenty of squirrels in the timber, and there is every reason to believe that we will continue to have excellent squirrel shooting in the state for many years. There has been no indication in recent years of overshooting squirrels.

Cottontail rabbits are the game most widely sought after by the greatest number of hunters in the United States. This condition is also true in Iowa. Since the low of the rabbit cycle in '39, the rabbit population has been building up, and this year they are numerous in every locality and in some sections are abundant. Iowa's 1944 rabbit population could stand many times more hunters without any danger of over-shooting. In postwar periods we may reasonably expect rabbits to reach highs and lows much as they have in the past, and in the meantime those of us who enjoy hunting and the outdoors should concentrate more on cottontail hunting.

As we analyze the fishing future, we may tie it, especially in the streams, very closely to soil erosion. As soil erosion control practices become more widespread we may expect our streams to carry less silt and be more suitable as habitat for the desirable game fishes. There is no question but what the streams are in better condition than they were a decade ago and that fishing is better in the streams than it was a decade ago. Although erosion control is barely under way, control of pollution has taken long strides forward, and this in itself has greatly aided the production of stream fish.

Aside from the bullhead, channel catfish lead the field in furnishing Iowa anglers sport and food during the past season. Most of the larger streams are well populated with this fine-flavored fish, and they were taken from early spring to the close of the season. Line baits were commonly used, and scores of "secret formulae" appeared on the markets. Crowds of fishermen, resembling bread lines of the early thirties, haunted the tackle houses when shipments of their favorite bait arrived. Catfish and methods of capturing them was one of the main topics of conversation in angling circles.

Smallmouth bass fishing was only fair over the state. Some sections consistently reported good catches, while other favorite streams were relatively unproductive.

Generally speaking, largemouth bass fishing was good. Limit catches were common in several of the artificial lakes and southern reservoirs throughout the entire season. A number of the natural lakes in northern Iowa, including Spirit, Clear, Marble and others, produced excellent bass fishing, particularly early in the season. Good reports were also received from some of the ox-bow lakes along the Missouri River. Although bass fishing was not up to par on the Mississippi River, because of high and turbid water conditions, many fine fish were taken.

Yellow perch were taken in large quantities from a number of natural lakes in northern Iowa. Conditions were ideal for the reproduction of the species last year, and the young were taken in enormous numbers in the test-netting of the survey crews in most of the lakes where they are native.

Crappies and bluegills furnished a substantial part of the fishing in the artificial lakes and reservoirs, and considerable numbers were harvested from natural lakes.

Although the white or silver bass were taken in large numbers, they did not furnish the fishing they normally do. Yellow bass, on the other hand, furnished a substantial part of the fish taken from Clear Lake. Limit catches were reported throughout the season.

Walleye fishing was very good in East Okoboji, West Okoboji, Silver and Clear lakes. Some very large fish and some limit catches were reported from Storm Lake also. Very few walleyes were taken from Spirit Lake last year. Good reports were received from several of the streams, including sections of the Des Moines, Cedar, Wapsi and Maquoketa, and from the Mississippi River in Allamakee, Clayton and Dubuque counties. Walleyes are apparently increasing in the Mississippi River. When river conditions were favorable, good fishing was reported. The sauger or sand pike is also harvested in considerable numbers in the Upper Mississippi.

Trout fishing was generally good in northeast Iowa, the northern section apparently furnishing better results than the southern. Dalton Lake in the southern section, however, furnished very good fishing, and virtually all of the trout stocked in the lake were harvested by anglers. Despite a rather unfavorable spring, anglers reported good trout fishing in most of the streams. The season was extended again last season until October 31, and many limit catches were made in this extension period.

At present the streams and lakes are well populated with fish, and all indications point to better fishing next year. During the past year 60,200,000 fish were stocked in Iowa waters to boost Mother Nature's natural reproduction.

A woman goes shopping, has a good time, and doesn't buy a thing.

A man goes fishing, has a good time, and doesn't catch a thing.

By E. W. Fobes,
Acting Area Forester

Iowa's 1944 lumber production was good, but not enough to meet its goal of 60 million board feet. Although complete information is not yet in, it is estimated that our production was about 53 million board feet, or approximately the same as 1943. Even so, an excellent job was done when the difficulties encountered during the year are considered. Besides manpower, equipment and other shortages, there were the floods. January started out with production above 1943, with February about the same for both years. Then bad weather hit, monthly production dropped to almost half of the corresponding 1943 production, and did not recover until August.

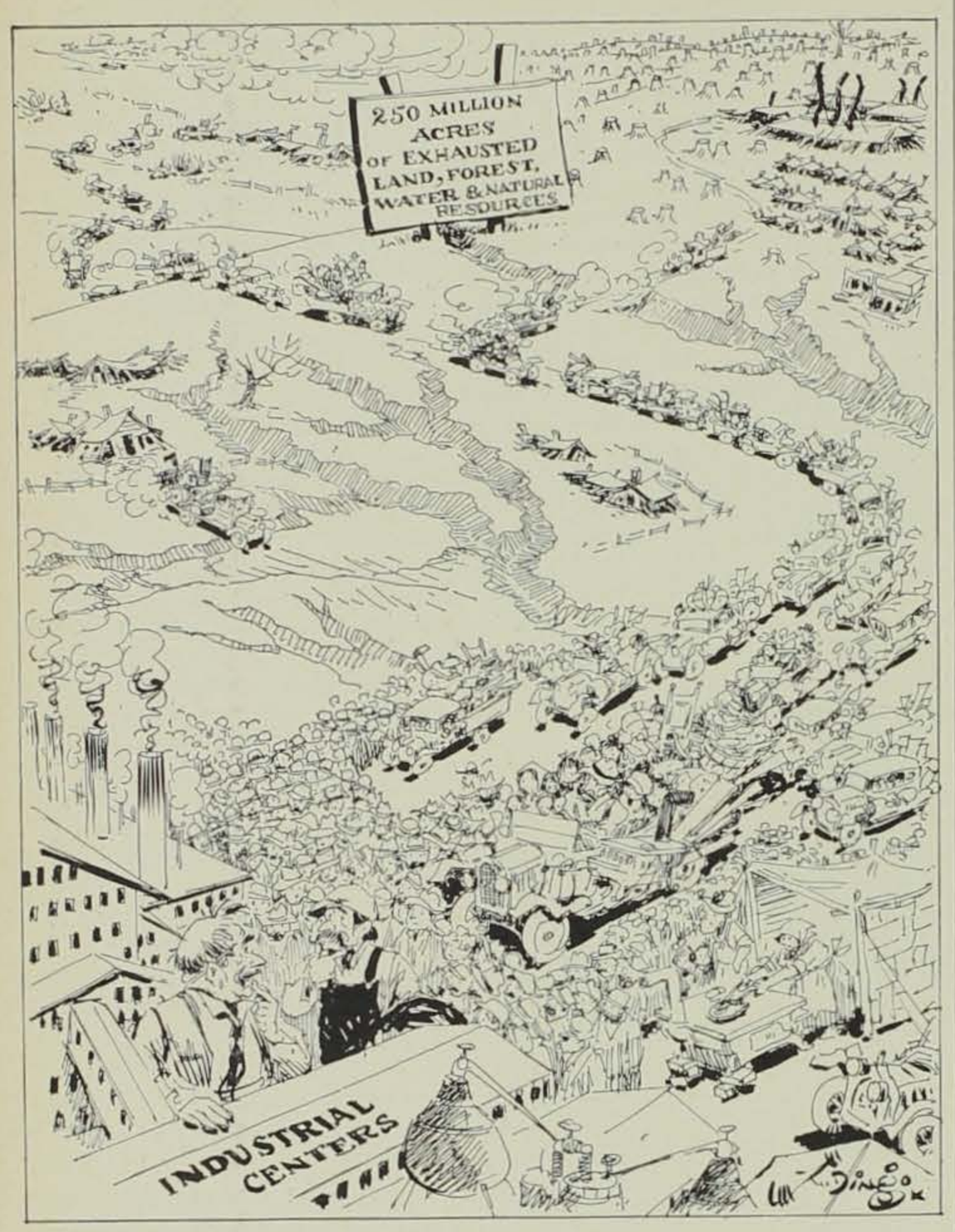
Many logs were lost in the floods, and bottom lands were too wet for logging during most of the summer. This seems to have been once when nature got even with man for his devastation of the forest cover.

There is still some destructive tree crop harvesting going on in Iowa, but these practices are decreasing, due to assistance being given farmers and sawmill men by farm foresters and others. Of course the number one forest enemy is still livestock, and no matter how carefully the tree crops are harvested, future crops will continue to disappear where livestock tramples and grazes the life out of new trees.

The national hardwood lumber requirements for 1945 are seven per cent above those of 1944. This means Iowa should produce at least 57 million feet of lumber in 1945. There is sufficient annual growth in Iowa timber stands to far exceed this amount if the trees are harvested selectively. Foresters are doing everything possible to assist and advise owners on selective cutting, but like all wartime commodities there just aren't enough foresters to go around. So every conservationist should help see that he and his neighbors do not destroy the natural resources in their zeal to help the war effort.

If a woodchuck could chuck wood, how much wood would a woodchuck chuck if a woodchuck could and would? But if a woodchuck could and would chuck wood, no reason why he should, how much wood could a woodchuck chuck if a woodchuck could and would chuck wood?

DON'T BLAME FACTORIES FOR ALL THE UNEMPLOYMENT



Today everyone is employed. Tomorrow when the war is over we will again be confronted with the peacetime employment problem. Although the depression is too recent not to be remembered, no one seems to take seriously the fact that our population has increased by leaps and bounds, while our soil, grasslands, and forests have shrunk by at least 90 million acres in the past decade. These new bald spots will spell less food and more homeless men in America.

Poverty or Conservation

(Continued from page 105)

Such hastily promoted projects, instigated for quick profit and exploitation, are seldom preceded by even a gesture of scientific investigation to determine in advance what the consequences may be to the people of the country as a whole. Because the simple principles of Nature's laws are not a part of the average man's learning, there is no one to protest. What is even more lamentable, the average understanding is so low that they do not even know they are being hurt until the sledge hammer falls. Congressmen, army engineers, most governors, state legislators, and all known mayors and county supervisors are as oblivious to the import of conservation principles as Adolf Hitler is to truth and human justice. That makes it almost unanimous, and yet the fundamentals are as easy to understand as the fact that long grass will gather and hold more snowflakes than short grass and hence provide more moisture in the soil for the next season's crops.

I could tell you of an experimental area of 35,000 acres of land which ten years ago had not a spear of grass visible, wherein seven flowing springs had gone permanently dry and life was practically extinct. That same 35,000 acres is now knee high with lush vegetation, the seven springholes are again full of water the year 'round and a thousand head of cattle could be fed without overgrazing. It didn't take any fertilizer. It didn't take any 25-million-dollar irrigation project to restore it to production. Only an application of the simplest principles of conservation management.

The obvious and simple practicability of Nature's methods turn out to be man's best aids. It did take scientists—and good ones—working diligently over a period of many years, to provide the proof that the principles of conservation would work, and why. It is too much to claim that the subject has been scientifically exhausted. It hasn't, but a great deal more is known than is being taught or applied and the scientific research is a long way ahead of the procession.

Let us see if we can outline a few conclusions which will fix in mind the objectives of conservation and the processes which are essential to its accomplishment:

1. No nation can permanently endure which consumes its natural resources faster than Nature, with scientific aids, can replace them.

2. Conservation is the science of greatest possible production without diminishing the source materials.

3. Conservation seeks by the application of the natural laws to provide methods by which perpetual production may be substituted for destructive exploitation.

4. Conservation is the exponent and advocate of careful scientific study and diagnosis before major operations are performed on our basic economic mechanism.

5. It is essential that whenever Nature's productive balance is invaded that adequate replacements or equivalent substitutions be provided as insurance against diminishing returns.

6. It is a primary requisite of conservation that no project which makes use of natural resources is justified whose costs to the people of this nation are greater than the local profits.

All these seemingly axiomatic precepts are, as a matter of fact, just another way of saying that you can't feed and clothe more and more people on less and less productive resources. The repetition of this axiomatic fact is intentional. To the newcomers who approach these more serious aspects of conservation for the first time, the emphasis on food production to the neglect of mineral resources may cause some questioning which should be answered here.

Resources by Nature are divided into two classifications: those which are renewable by human efforts and those which by Nature are not renewable. In a measure, all organic resources are renewable. Forests can be replaced by reforestation; grasses and surface vegetation if destroyed can be replanted. Furs of wild animals can be replaced by wool from domestic animals or textiles made from vegetable matter. Depleted animal life can be renewed by scientific breeding and restocking. Even soil depletion can be, in a measure, renewed under advantageous conditions by prescribed vegetation management.

On the other hand, the mines which produce our inorganic or mineral resources such as silver, aluminum, iron, tin, zinc and kindred elements cannot be restocked. They are therefore classed as non-renewable resources. There are, to be sure, dangers which threaten serious inconvenience if by mismanagement and waste our stocks of essential minerals run short, but these hazards concern industrial production rather than the essentials to sustain life.

I venture to say that no one would like to contemplate living in this modern world without the conveniences provided through industrial production. If that is bad, think how much worse it would be to live in a world from which the supply of food, fuel and clothing had been exhausted. Hence the emphasis on "renewable" resources, for if you do not "renew" your "renewable" resources you won't have any use for the "non-renewable" anyway. King Midas found that out when everything he touched turned to gold and he could not eat.

Considering the almost unlimited possibilities for substitutions in the field of minerals and inorganic, unrenewable materials, we can say with considerable degree of confidence that there will be no "bottleneck" in the long run of metals for industrial needs and human requirements, at least in times of peace.

It is unfortunate, however, that in the process of producing substitutes for metallic materials, an extra strain is put upon the organic sources of materials, where the real bottleneck is located.

Running through the whole scale of new plastic materials—Rayon, Nylon, Lucite, Pliofilm and the Bakelite group, to mention only a few—the constituent elements are chiefly of organic origin, and every known organic substance, living or dead, has come and must continue to come through that single agency of green leaf chlorophyl plus sunshine. If there were any virtue in wishing, we could wish that our alchemists would pick on something besides carbon to transmute into mineral substances. Everybody wants to use carbon for something or other, and no one has ever been able to make any.

In the field of heat, energy and power production, there is no fuel which is not of organic origin, with the possible exception of mineral oil, whose mysterious origin has not been satisfactorily proved. Both coal and oil must be classed among the non-renewable resources and any substitutions must come from the organic or vegetable family. Synthetic gasoline, the alcohols, and all combustibles are made from organic matter. Then add further to the strain on the organic bottleneck all the foods we eat (whether animal or vegetable), all the textiles, linen, cotton or wool, all the millions of tons of paper used daily, all the gunpowder, cigarettes and feathers on women's hats. To put all expended energy also in the list would involve some duplication, but its drain upon organic resources is so vast a daily item that it should not be neglected in the comprehensive concept. From the tiniest flip of a fish's tail to the throbbing engines of the largest steam turbine in the world every move burns up, directly or indirectly, some of the organic matter laboriously produced by the minute green cells in leaves.

Picture then in your mind, if you will, this vast army of human demands lined up like a breadline before a soup kitchen and waiting to be served by that sole producer of relief rations, the green pigment in vegetation, and you will get a new conception of what a "bottle-

(Continued on page 111)

America's Bird Dogs

SPANIEL TAKES TO DUCKS

By Jack Hewins

Stir all the bird dog breeds into ıe ample kettle, with maybe a nch of poodle and a touch of ghan, and you would wind up ith a big, woolly, liver-colored, iendly critter with a topknot and ı Irish brogue.

This would be the Irish water ɔaniel, which is a couple of inches naller than his sleek relative, ıe Irish setter, and strictly a ater animal who prefers splash-ıg through slush ice after a mal-rd more than anything else.

He's a home-loving gent who is illing to loaf around 10 months f the year waiting for the time hen the quackers come rocketing own from the north. He takes aturally to his business, which ducks.

Credit for his development is iven an Irishman, Justin McCar-ıy, who didn't divulge his breed-ıg secrets when he gave the sports orld one of its favorite retrievers. fe liked his spaniels about 21 ıches high at the shoulder, and ointed out that the tail was un-eathered beneath, unusual in a eavy-coated hunting dog.

Spaniel men might cry horrors t the thought, but the proud French" poodle of the dog shows ɔoks much like the Irish swimmer hen unclipped—and is a highly fficient retriever in the bargain.

As sleek as the Irish is rough nd ragged is the golden retriever, shining nugget of feathered eauty. He was developed in Eng-ınd from a Russian sheep dog.—.P Newsfeatures, Reprinted by ermission of the Des Moines Reg-ster & Tribune.

COTTONTAIL PROLIFIC

Cottontail rabbits are very pro-ific. Litters vary from one to ight young and average 4.4 in Missouri. It is possible for a emale cottontail to produce young ıonthly from March through Sep-ember, but three or four litters er year is about average.

"Two honest and good-natured nglers have never met each other y the way without crying out What luck?"—Henry Van Dyke.

Red Rock Dam . . .

(Continued from page 105)

from the standpoint of the outdoor recreation (fishing, hunting, boating, bathing, picnicking, etc.) that this area will probably provide, based on the facts and information the Commission has been able to obtain to date.

The creation of a 23,600-acre lake with stable water levels, pollution and silt deposits from erosion held to a minimum by proper treatment of sewage and industrial wastes and the use of soil-conserving practices such as contour farming, strip cropping, gully control and other land uses on the watershed, would provide a fine recreational lake.

This project is proposed primarily for flood control purposes with hydroelectric power a secondary consideration. So far as the Commission has been able to ascertain, wildlife and recreation, and siltation and its control, have not been considered in the plan.

The lake formed by the proposed Red Rock Dam would not provide good pole and line fishing. The fish environment in such water bodies is not suitable for game species. Certain soft fish, however, including the carp, would thrive and be present in enormous numbers.

The basic principle for high dam flood control projects is to catch and store flood waters during heavy rain periods (usually the springtime of the year), and feed this stored flood water into the stream below as fast as the streambed can carry it away without overflowing the banks. So each year there will be constant fluctuation of the pool or lake.

The Des Moines river and its tributaries carry heavy loads of silt after each heavy rain. In the opinion of the Commission siltation is the most serious factor which will limit the amount of fish and game and recreation the area will provide and support.

A study of the 25 natural lakes in the Des Moines-Raccoon watershed revealed that these lakes are all heavily silted, most of them to the point where fish life cannot normally or naturally exist. In order to restore them an extensive dredging program was recommended in the Twenty-five Year Conservation Plan, and was being carried out prior to Pearl Harbor.

It is the considered opinion of the Conservation Commission that this proposed lake, with no effort made to control erosion, will fill rapidly with silt.

Baldwin in his report to the State Planning Board in 1936, "Water Use and Conservation in Iowa, Vol. II," says in paragraph (e) page 39, "It will be further noted that 97 per cent of the land in the basin requiring drainage has been drained." Run-off now is definite and swift; excessive silt loads are positive. On page 66, paragraph 47 (a) he says, "At Keosauqua the average load of the Des Moines river has been 642 parts per million, equivalent to 5,000,000 tons of solid matter per year. This is higher than the unit load in the Iowa or Mississippi River."

Anyone interested may determine for himself how much recreation has been provided by the creation of the large lake above the Keokuk dam. It provides boating, no bathing because of the roily water and heavily silted bottom; very little game fishing because living conditions are destroyed by silt deposits and roily water from wave action; provides a resting place for migratory waterfowl but no food because vegetation is smothered by silt; very limited production of fur-bearing animals because of lack of food; very little development of cottage sites or parks because the area does not produce good fishing or hunting and does not have clear water and sandy beaches for bathing.

With this proposed barrier across the Des Moines river, flash floods with heavy loads of silt will quickly blanket the bottom of the impoundment with successive layers of mud. Further augmenting this condition, silt deposits from the North, Middle and South rivers will enter the lake in Polk and Warren counties, and from the other 12 main creeks.

The expansive area of the lake subjected to heavy wind sweep will keep silt in suspension, and prevent establishment of desirable vegetation. Aquatic life, both plant and animal, are closely related and inter-dependent. Both must have clear water, stable water levels and unmolested lake bottom for satisfactory reproduction and growth.

The lake will be stocked naturally with such species of fish as exist in the streams above the impoundment. Inasmuch as flowing water and still or stagnant water represent two extremes in fish environment, many of the species present in the streams will not adjust themselves to a changed habitat. This will result in a few types that can thrive in either streams or stagnant water predominating the proposed lake. These fish will be the quillback or carpsucker, the European carp, the common buffalo and the gizzard-shad. The quillback is a bottom feeder, its food consisting principally of organic debris. It has little commercial value, yet when present in limited numbers its food habits make it beneficial in mud-bottomed lakes and streams. The common buffalo will grow slowly and be in under-nourished condition. Mud-bottomed lakes are not preferred by this big minnow. Buffalo fish require stable water level and clear, vegetative habitats. Carp will thrive and be present in large numbers.

The random draw-down of the pool will keep the sunfish tribe, the black bass, crappie, bluegill, pumpkinseed and other sunfish in impoverished populations. These are the fish that build nests and care for their eggs until after hatching stages. The young fry must have stable, vegetative, clear water environment.

The principal forage fish required by the carnivorous members of the sunfish group will be almost totally eliminated by the muddy bottom, the scarcity of desirable aquatic vegetation, and the constant fluctuation of the pool level.

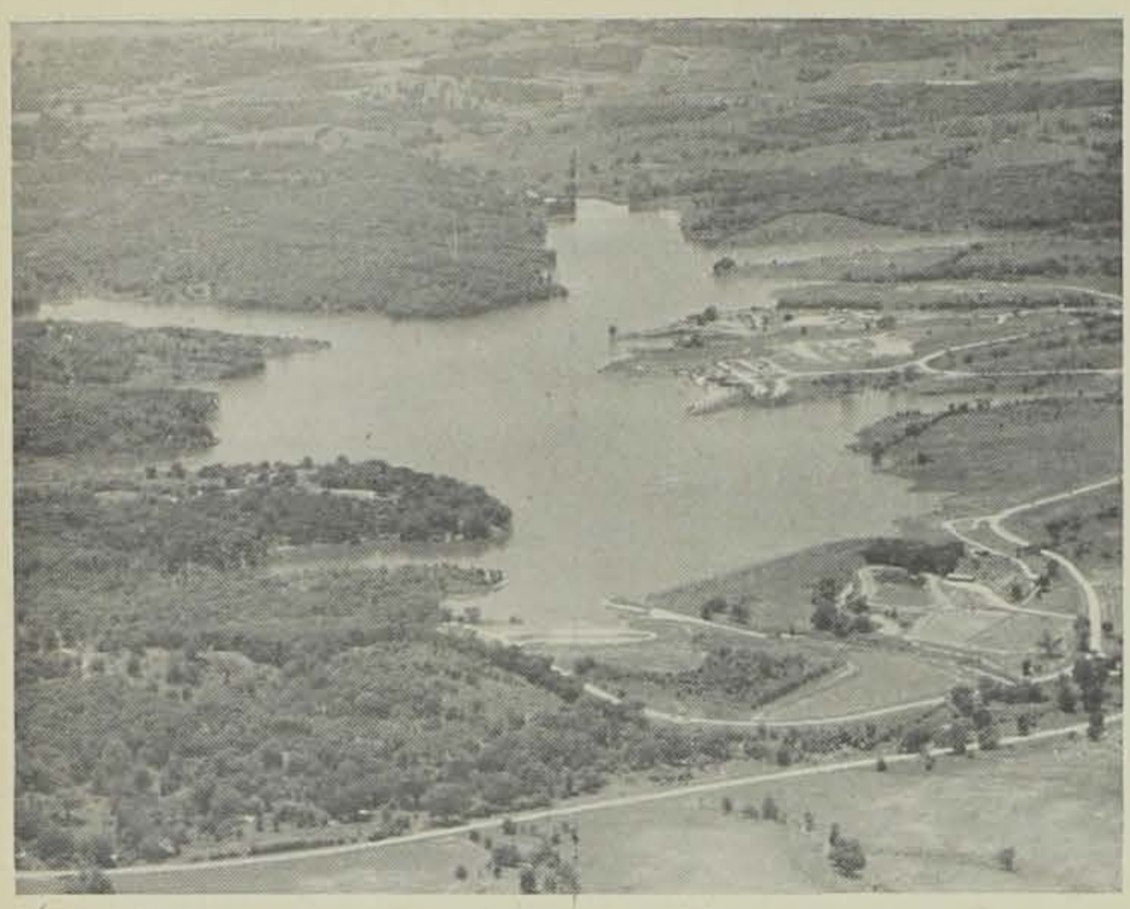
There is no reason to expect an ideal fishing lake or even a fair fishing area, after reviewing the life histories of the fish that will, through force of circumstances, live in the area to be impounded.

Fluctuating water levels are also non-conducive to muskrat populations and to other aquatic and semi-aquatic animal groups that require stable environment. The present depleted muskrat populations on the Mississippi river nine-foot channel lakes are a practical demonstration of what to expect. Migratory waterfowl and shore birds will find this area usable. Although there will be a scarcity of duck food in the lake, the large expanse of surface will invite resting refuge. The wide acreage of mud flats will afford haven for our migrant shore birds.

Bevies of bathing beauties such as this one at Lake Ahquabi would not be found at the Red Rock Dam impoundment. The experience of the Commission is that people do not and will not bathe in muddy-bottomed, roily water.

So far as the Commission has been able to ascertain there are no provisions in the plans for swimming and bathing. A body of water such as this will be, fed by surface runoff, carrying heavy silt loads, presents a real problem if sandy beaches with clear water are to be provided and maintained. After every flood the beach will be

(Continued on page 110)



The Conservation Commission favors a flood control plan that starts where the water falls as rain on the land. This program includes such land use practices as the reforestation of steep slopes, strip-cropping, contour farming, gully control, construction of farm ponds and artificial lakes in the headwater. Lake Wapello is a splendid example of a properly constructed and controlled artificial lake.—Ottumwa Daily Courier Photo.

Red Rock Dam . . .

(Continued from page 109)

covered with from one to several inches of mud. The experience of the Conservation Commission is that people do not, and will not, bathe in roily water with muddy bottom.

So far as the Commission has been able to ascertain there are no plans for public parks or picnic areas. The shore line of the lake will be in federal ownership. The Secretary of War may, at his discretion, grant permits for public parks, private cottage sites, etc. Whether or not public parks will be patronized by our people if they are provided, in the opinion of the Commission, will depend upon the kind of lake provided and its condition. If the lake provides good fishing, hunting, bathing and boating it will be very popular. If a silt bottom, roily lake with poor fishing, with extensive mud flats between water and shore a part of the time, is provided, as present information indicates, it will be used for these purposes no more than Cooper Lake on the Mississippi River is at present.

The State Conservation Commission is opposed to this project. It favors a flood control plan that starts where the water falls as rain on the land. It includes land use practices such as reforestation of steep slopes, pasture for the less steep, strip cropping, contour farming, gully control, and other approved land and water use methods that stimulate infiltration of rain water, slow down and reduce runoff, and reduce erosion, the construction of farm ponds, artificial lakes and the restoration of drained and silted lakes and marshes in the Des Moines river watershed, so constructed with outlet control dams that flood water can be stored in a hundred smaller headwater reservoirs, and fed slowly into the stream below.

Fifteen million dollars spent on such a headwater program, in the opinion of the Commission, would accomplish erosion control — our number one problem—in the shortest time possible because local communities would be interested. It would give flood protection to the entire Des Moines river, whereas under the Red Rock plan only residents below the dam would receive benefit. It would tend to stabilize stream flow and dovetail harmoniously with other land and water use.

The development of a river basin or watershed should include all phases of soil and water use dovetailed into an all-inclusive plan that will insure the greatest good to the greatest number of our citizens over a long period of time.

THE OUTDOORS IN ADVERTISING

More and more firms are using outdoor themes in their publicity, which is not surprising when you consider the fact that combined, hunters and anglers pay the largest of all sporting bills. They even outshade horse racing. This year we've seen three different, attractive calendars, the type giving outdoor advice on the back of each of the 12 monthly pages. One of these is packed with facts pertaining to hunting and fishing lore. An article on "Evolution of Angling Technique" particularly holds our interest. — Outdoor Outlook, Rock Island Argus.

"Fishing is an employment for my idle time, which is then not idly spent; a rest to my mind; a cheerer of my spirits; a diverter of sadness; a calmer of unquiet thoughts; a moderator of passions; a procurer of contentedness."—Sir Henry Wotton.

STRANGE BUT TRUE

The statement that there are more furs now per acre on farms than were formerly in the wilderness areas may seem surprising, but checking will bear it out, say the researchers.

Our most important fur-bearing animals—muskrat, opossum, raccoon, skunks, mink and foxes—have greatly benefited from clearing of the land and putting it into crops. This has come about because these animals are able to utilize to good advantage the food which otherwise would go to waste on farmland, and because they are able to find suitable habitats in the land left uncleared and the new habitats such as ditches and lakes which have been created. Ohio, with about 12,000 miles of streams of all descriptions, has more than two times as many miles of drainage ditches. The latter for the most part are in the most fertile part of the state where an abundance of food in the form of crop wastes is available. In addition, the number of lakes and ponds has been greatly increased, and many new ponds and lakes are being built yearly.

The small ponds which are being built on many farms are often far more productive on an acreage basis than larger bodies of water and marsh land. Food and less competition for living space are important factors making this possible.

The most important areas producing homes for fur-bearing animals on farm lands are drainage ditches, stream banks, ponds, woodland borders, and fence rows. Few fur bearers live in crop fields or pastures, but they do get a large part of their food there. Many more furs probably could be produced on Ohio farm lands if more permanent homes were provided. All that is needed is to protect woodlands, stream banks, fence rows, pond margins, and idle areas from being burned or cut over, and the animals will make their own homes.—Ohio Conservation Bulletin.

The Sportsman's Prayer

Thank you God, for my being born an American.

For putting into my body and life the ideals of sportsmanship.

For placing me on this Earth in a spot where fields and forests are still green, and which echo the sounds of wildlife and the songs and whistling of birds—not the roar of cannon.

Where free men enjoy hunting camps—not the agony and torture of concentration camps.

Where a drive "over the top" is in pursuit of the wary deer, not in search of a fellow human.

Where a sudden wh-r-r-r is the sound of a grouse—not a Stuka or a dive bomber.

Where I sit contented and sentinel-like for hours, scanning the heavens with a practiced eye for ducks—not enemy raiders.

Where a "noisy honk" is migrating geese—not an air raid alarm.

Where a "depth charge" isn't for the destruction of humans—but a little lead sinker on the end of my fishing line.

Where the steady blast of cartridges signifies a nearby trap or skeet field—not a gory battlefield.

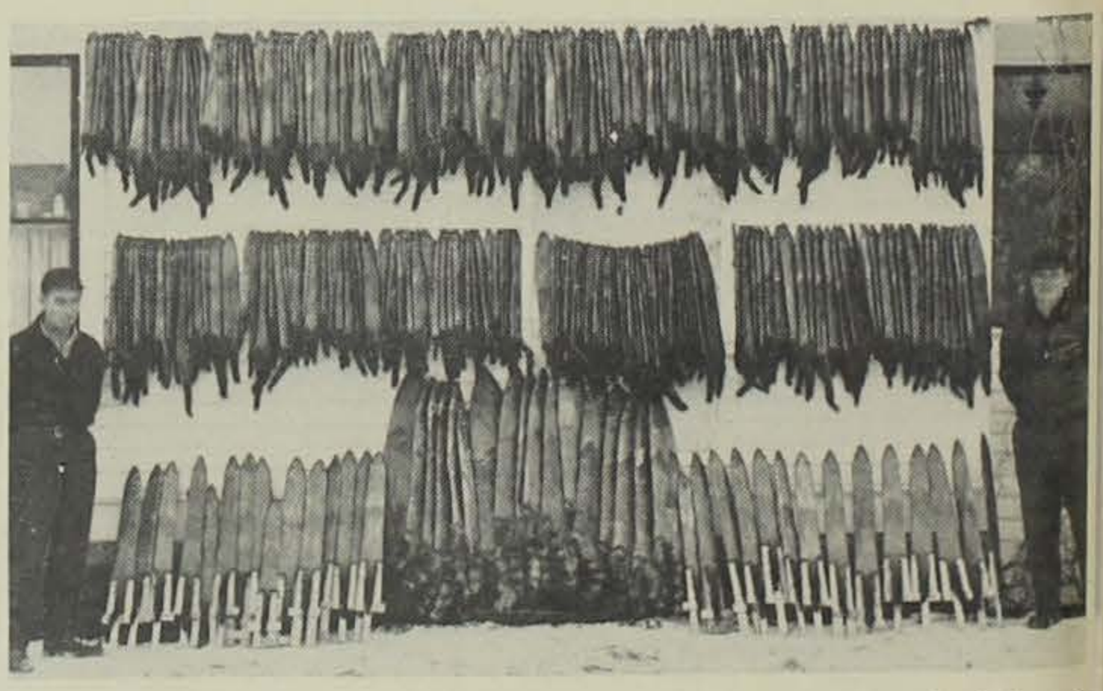
Where we teach our fourteen-year-olds the use of guns for pleasure and recreation—not for the destruction of our neighbors.

I'm glad I'm an American Sportsman; thank you, God.—By Jimmie Guthrie, Pennsylvania Game News.

RABBITS HOME LOVERS

That cottontail rabbits live their entire lives on a relatively small area, provided food and cover conditions are adequate, is shown by recent Missouri research. Live-trapping and banding the animals has disclosed that the normal home range under good conditions is about 1.4 acres for males, 1.2 acres for females. Bad weather or food shortages may induce rabbits to move over larger areas than they normally do.

"The end of fishing is not angling, but catching."—Thomas Fuller



The contention in Ohio that there are more furs per acre on farm land than in wilderness times is supported by last season's mink catch of two Sanborn, Iowa, trappers, Harold Conkey and Jim Sanders, shown here with their catch of 303 mink and 17 raccoon. The two men caught all of the furs shown in the photo themselves within a few miles of home.—L. L. Dick Photo.

overty or Conservation

(Continued from page 108)

ck" means. There is no other urce. Without green vegetation ere is no chlorophyl. Without il and water there is no vegeta-n. Every grassy plain or for-t denuded of its vegetation and ery marsh drained of its water by an's wasteful practices constricts e bottleneck. Every careless rmer who by negligence allows e topsoil to wash from his land ortens the period of time that s soil can contribute to human eds.

Among modern current events can think of no more excruciat-g mental agony than must have en suffered by those battered oops on Bataan Peninsula, scan-ng the skies to the east in vain r the relief planes which never ere to arrive. This is very real all of us, and tragic in our total lplessness to aid. I wish it were ssible to dramatize for you the ter hopelessness of our situation the North American continent hen through failure to heed con-rvation warnings the pinch of ganic shortages overtakes us l and from which no relief will be mediately available.

There was a time when popu-tion pressures on this continent ere easily relieved by opening up w lands. Today there are no w frontiers. We must sit down here we are and plan our sub-stence for the next ten thousand ars on what we have left of our ganic resources.

Today we are all busy with war. veryone is employed, or should . But tomorrow when the war over we will be again con-onted with the problem of peace-me employment. The trials of ne late depression are too recent ot to be remembered. But no ne seems to take seriously the act that our population has in-eased by leaps and bounds while ur soils, grasslands, and forests ave shrunk by at least ninety illion acres within the last decade.

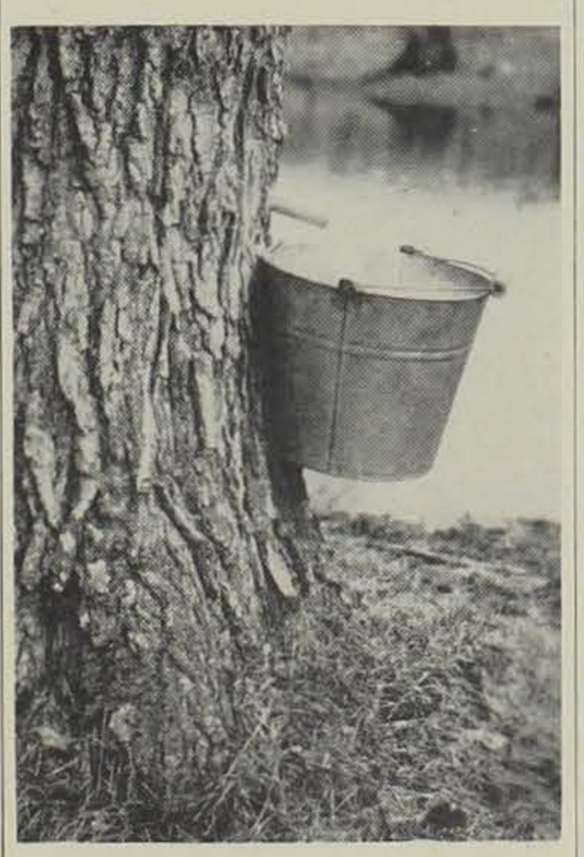
Did you ever play "Going to erusalem" or "Musical Chairs" here the guests at a party march music around a double row of hairs which contains fewer seats an there are guests? When the usic stops everyone tries to sit own. Because there are fewer eats than there are players some-ody generally sprawls on the oor or is left standing without ny chair. Then another chair is moved, the music and marching tart again and so on, until there but one chair left.

One hundred thirty million eople in our country have been laying the same game, only we ave been using land instead of hairs, and an amazing number of eople already have no place to it down. Then, if we add the istressed populations of Europe ho must be fed, our little game ecomes serious business indeed ecause the exploitation of re-ources for war in the interest of national survival has exceeded any peace-time exploitation we have ever known. When the emergency is past there will be new bald spots on the surface of our continent where natural resources have been exhausted. Those bald spots will spell less food and more homeless men.

In our desperation, if we follow our customary pattern we will juggle the currency, reduce working hours and redistribute wealth; we may even try substituting Dictatorship for Democracy, but none of them nor all of them put together will restore the soils we have so wastefully depleted. Such inventions of the sociologists and economic doctors will be of no avail in reforesting our cut-over timberlands. They cannot reclothe the Dust Bowls with grass by social reform, neither can they bring back the eroded topsoil from the Mississippi Delta and put it on the abandoned farms. Once exhausted, there is no simple cure. Only a public aroused to the dangers can provide the prevention before it is too late.

Conservation becomes, then, not a matter of sentimental appreciation of the beauties of Nature. Neither is it an idle humor of cloistered scientists in their experimental laboratories. It is grim business for statesmen and government executives, and we won't have statesmen and executives who will know what it is all about until the teaching fraternity takes over the job of educating a new crop.

(To be concluded next month)



Live sap runs through the spiles into the sugar buckets. It's sugar time and the sap is running, and if nothing else proclaims the end of winter, this alone would be enough of sign.—F. H. Davis Photo.

THE SUGAR TREES

Late winter still knows the bite of cold, yet the old snow has a worn-out look to it. There is a slight swelling in the maple buds, and in the air there is a new scent, almost too faint to be definite, which means spring. As another sign of spring the sugar maples have been tapped and the clear, live sap runs through spiles driven into the sugar buckets which may have served this purpose year after year. It is sugaring time and the sap is running. And if nothing else proclaims the end of winter, this alone would be enough of sign.

The snow has been trampled where sleds brought empty buckets to the trees and took the buckets full of sap to a shed. Here a smoky fire, in the old style which still is held to in many places, boils the sap until it becomes syrup and then crystallizes as sugar. The old method is an all-night job, ancient in tradition as the Indians themselves who knew about tree sugar before white people came and learned the secret.

The Indians learned to make maple syrup through the long, laborious method which, nevertheless, produced the only sweets they knew. No one knows how they learned it, nor what Indian woman first noticed sap dripping from a cut in a tree where a passing brave perhaps had marked the trail with his axe. She tasted the sap—or more likely it was a child whose eager, questioning tongue licked the sap and found it sweet. Somehow the Indians discovered that by gathering enough sap in buckets made of birch bark and by dropping red hot stones into the bark kettle, the sap would boil down until syrup formed. All day and all night, while birds looked down at the strange procedure in the forest, and the passing foxes with yellow eyes paused a moment to see what Man was up to, the thin sap darkened and thickened to sweet syrup. Perhaps one cold night before the chilly dawn, an Indian woman put too many hot stones in a kettle of syrup and stirred too long, and discovered that the syrup turned to sugar. And that was the first candy the Indian children had ever known.

It was Indians who taught the New Englanders how to make syrup and sugar, just as it was they who taught them the uses of corn and cranberries and codfish; and the New Englanders, after their fashion, improved on the methods by gathering sap in more scientific utensils, boiled off the excess water in great kettles, or later used modern evaporating vats. But the final result was the same.

For no matter how modern maple syrup and sugar may become—and in Canada today it is a million dollar industry—it still is obtained from the sugar maple tree that grows in the hilly groves of eastern America. It still is obtained only in late winter and early spring, because no matter how much a man may wish it otherwise, the sap is to be had only at this time of year.

Last summer's leaves stored their starch in the trunks of the trees; the starch turned to sugar and as a sweet sap it is ready to flow when spring approaches. It is then that the fresh scent of spring is increased by the smell of boiling maple sap in the wintery sugar grove.—The Living Museum.

Famous Iowa Trees

From Local Legend and Historical Fact

GREEN TREE HOTEL

One of the most famous trees along the Mississippi River is the beautifully formed elm, for many years known the length of the Father of Waters as the Green Tree Hotel. The tree, still in its prime although considerably more than 150 years old, grows on the banks of the Mississippi River a few feet from the water's edge at LeClaire, Iowa, north of Davenport. The Green Tree Hotel, also known as the Buffalo Bill Tree, received the former name from the steamboat men, who used it as a gathering and loafing place while laid off and waiting for another trip on the river. Under this elm were spun the salty yarns of the river—the tales of giant fish, the stories of ghosts, fights, boat wrecks and races, many of which are so thrillingly told in Mark Twain's story, "Life on the Mississippi." Under this elm the picturesque steamboat crews laughed, sang, and fought with the abandon characteristic of these almost legendary river men. It takes little imagination to see small boys with big ears and bugged eyes fringing this rough assembly, drinking in the harmless lies and river gossip.

One young listener with gaping mouth was William Cody, destined to become immortal as "Buffalo Bill." Buffalo Bill was born near the town of LeClaire in 1845 on a farm given to the famous Anton LeClaire by the Sac and Fox Indians, and on which legend says LeClaire built his first cabin. The farm was reputedly the site of the council in 1832 between General Scott and the Sac and Fox Indians which concluded in the Black Hawk Purchase, opening these lands to white settlement. Buffalo Bill's boyhood chum, Joseph Barnes, erected a monument near the foot of the tree bearing this inscription: "Dedicated to Colonel William F. Cody, 'Buffalo Bill', by his friend and boyhood playmate, Joe Barnes. Erected in 1924."

"Angling — incessant expectation and perpetual disappointment."—Arthur Young.

Behavior and Food of Penned Raccoons

By Homer E. Fairchild and George O. Hendrickson

AT mid-September, 1944, seven raccoons were received from the State Game Farm for experimental studies. The largest, nearly twice as heavy as any other and evidently a year or more old, was promptly named Grandpa. Although he was tame and easily handled, he was less playful than the others, and while the youngsters monkeyshined on the woven fence of the pen at night, Grandpa, with considerable dignity, leisurely paced back and forth along its sides for exercise. Although he was nearly twice the size of the largest youngster, Grandpa was not a bully; in fact, all got along together very well.

Raccoon are the third most important fur-bearing animal in Iowa, 38,303 having been taken during the 1943-44 season, with a total pelt value of $277,696.75. Note the variation in the masks of these captive raccoon used in the behavior studies at Ames.

The smallest raccoon, weighing about two pounds when obtained, was dubbed Whiner because she made more of the characteristic whining noises than the others. The darkest in body color, she also had a broader black mask over her face, and the white lines above her eyes were not conspicuous. Whiner was more shy than her companions and was the last to come to the food pan when placed for them. She held back, crying when approached, but in spite of her timidity she liked to be petted when picked up.

The largest youngster was a hoggish eater and growled loud and long while feeding. He became known as Scrappy and was apt to snap when molested at meals. At other times Scrappy was the most playful of all. Rolled on his back and roughed a bit, he would suddenly jump to his feet, run away, and then turn back for more rough stuff. Often in rough play Scrappy showed his teeth as a dog does, but he never bit a hand put in his mouth. At times, after prolonged hard romps, he lay relaxed in the shade of the bunk house to rest and cool off.

Red Neck got her name from a reddish brown hairy collar around her neck, more noticeable than on the others. She was the best "necker" of all, cuddling up in a most amusing manner, with an "oh, joy!" expression in her eyes and face, to anyone petting her.

Wildy was so-named because he did not like to be handled or petted. He always fought back and snapped angrily at the handler during the frequent weighings in.

The remaining two raccoons, females, went without names, for they were average in behavior, tame and playful.

The raccoons dug numerous small holes in the sand of the pen floor and frequently reached through the fence, pawing in the grass and making holes in the ground outside. Perhaps they got some crickets, beetles and grasshoppers for food thereby. Although most of the digging was done at night, in daytime the raccoons frequently and with deliberation made small ground holes in apparently an absent-minded manner, for an observer could see no reason.

No vertebrate flesh was given the raccoons for food. But a small opossum that crawled into their pen one night disappeared the same night, and indications were that it was eaten by the raccoons. Studies of food taken by raccoons in the wild, however, do not show opossum or other vertebrates as conspicuous in their diet. Although raccoons are scientifically classified as flesh-eaters, they have molar teeth more of a grinding type than of the shearing kind that can be seen on a dog.

Corn on the cob was the principal food of our family of raccoons throughout the fall, in fact, approximately three-fourths of their diet. At first, when the corn was soft, the raccoons gnawed the kernels from the cob as they held the ears on the ground with their forefeet. After the kernels hardened, the animals shelled the kernels with their forepaws before eating. Seldom was corn washed in water. The average number of ears consumed in a day increased from 11 in September to 13 in October and 15 in November, or about two ears to a raccoon per day through the fall.

During the first month various vegetables and fruits readily available were offered to the raccoons. Carrots, cabbage and tomatoes were eaten in part, but beets were sampled only once. Watermelon and wild grapes were completely consumed, whereas pumpkin was not touched.

After mid-October, a prepared food containing a minimum of 22 per cent protein was fed in pellet form, about three ounces to a raccoon daily. These hard food pellets were frequently washed in the drinking water. The smaller animals washed the food longer than the larger ones, perhaps to soften it more.

On November 9, when the temperature dropped rapidly 10 degrees to 41.5° F., the raccoons ate the largest daily amount of corn, nearly four ears each. In general, sudden drops in temperature whetted their appetites and marked rises decreased the amounts of food eaten.

The raccoons gained an average of nearly 0.9 pound a week. At pelting time in December, Grandpa weighed 20.2 pounds, and Whiner, the smallest, tipped the scales at 9.5 pounds. Grandpa gained about four pounds and Whiner approximately seven pounds during the fall. Wildy at 14 pounds showed the poorest gain for the youngsters, around 0.6 pound a week. Scrappy, always a hearty eater, gained 1.4 pounds a week to set the record.

All of the raccoons gained until the last week in November, when Grandpa lost 0.4 pound. In the first week of December Scrappy lost 0.2 pound and Wildy 1 pound. Red Neck gained 1 pound, Whiner 0.5 pound, and the other two 0.7 and 0.2 pounds that week. The cold weather of December decreased food consumption greatly, and the raccoons stayed in the house, where they huddled closely together most of the time. The scarce tracks in the snow indicated very little night activity in the fore part of December.

Raccoon are one of the best behaved and best show animals of all our native species and rival monkeys in their ability to cut capers. This illustration shows graphically the source of their common nickname "ring-tail".

Raccoons in the wild near Ames had a fall diet of about 70 per cent corn, supplemented chiefly by crayfish and wild fruits, LeRoy Giles learned while a research student at Iowa State College. On the basis of amounts eaten by the penned raccoons, an animal in the wild might use two to three bushels of corn in the fall. Approximately 13 pounds of corn were consumed for one pound of gain by penned raccoons, about three times as much as the amount needed for a pound of gain in hogs. That does not mean that raccoons are wasteful with corn, for at $4 to $5 for a pelt and with six to 15 pounds of edible meat, a raccoon pays well for the corn, even at $2 to $3 a bushel.

DISTANCE RECORD 7,200 MILES

Alfred Andersen, president of the Omaha Flying Club, "read in The World-Herald a news item about an Army pigeon that flew 1,090 miles. It said this may be the world record in flying distance for homing pigeons. But it isn't. The longest racing homer flight in history was registered by a bird which flew approximately 7,200 miles from Arras, France, to Saigon, Indo-China, across many seas, mountains and deserts . . . The longest United States record was established by an Army bird which reached San Antonio, Texas, after

a flight of 2,100 miles from Vanceboro, Maine. The longest American record was set by a pigeon which picked its way back to Brooklyn from Caracas, Venezuela, a distance of 2,200 miles. These are three of the longest flights and are generally accepted as authentic marks. Flights of 1,000 to 1,200 miles are now common in the United States and most clubs hold at least one marathon event of a thousand miles each year. Five hundred miles in a day is gradually giving away as the standard yardstick to six hundred miles a day. . . From the standpoint of speed rather than distance a pigeon from East Moline, Illinois, in June, 1936, broke a record of 35 years by covering 256 miles with an average speed of 2,104.32 yards per minute—71.7 miles per hour."—Omaha World-Herald.

PORCUPINES LATEST HAZARD TO SYNTHETIC TIRES

How would you like to try to convince your rationing board that a porcupine ate up your tires? Well then, if you have synthetic rubber on your car, you'd better not leave it where the porkies can get at it!

That's the advice of the New York State Department of Conservation, which cites several cases of porcupines dining on synthetic tires. Apparently they contain some toothsome ingredient which is missing from the natural rubber product. Frank L. Du Cuennois, Assistant Game Protector at Glen Falls, thinks it's the alcohol!